

## REMARKS

The present application was filed on February 22, 2002 with claims 1 through 21. Claims 1 through 21 are presently pending in the above-identified patent application. The present amendment is accompanied by a petition fee for extension of time (one month).

5 In the Office Action, the Examiner rejected claims 1-3, 5-9, 11-16, and 18-21 under 35 U.S.C. § 102(e) as being anticipated by Janssen (United States Patent Application Number 2003/0095777 A1). The Examiner indicated that claims 4, 10, and 17 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

10 The present invention is directed to a method and apparatus for adjusting the phase of an optical signal by varying the path length of the optical signal using one or more moveable mirrors. The phase adjustment techniques of the present invention may be employed in various optical devices, including 1 x n optical switches. The position of the mirrors may be controlled, for example, using micromachined control elements that physically move the mirror along the lightpath.

15 An exemplary 2-by-2 optical switch includes two waveguides configured to include a coupler region.

A mirror is positioned at the output of each waveguide. The position of at least one of the mirrors may be adjusted along the optical path and the mirrors reflect the light exiting from the end of the waveguides back into the same waveguide after an adjustable phase delay due to the round trip through an adjustable air gap between the waveguides and corresponding mirrors. A received optical

20 signal is split in the coupler region into two generally equal components and the phase of at least one component of the optical signal is adjusted by controlling the relative position of the mirrors. The optical components are then recombined and the optical signal appears at the appropriate output port of the optical switch. The present invention may also be applied in wavelength selective optical switches that support multiple optical channels. A number of techniques are also disclosed for  
25 fabricating optical devices in accordance with the present invention.

In this response, Applicants traverse the various §102(e) rejections of claims 1-3, 5-9, 11-16, and 18-21 for at least the following reasons.

Regarding the §102(e) rejections to independent claims 1, 7, 12, and 19, Applicants concurrently file herewith a Declaration of Prior Invention Under 37 C.F.R. §1.131. As indicated in the Declaration, the claimed invention was conceived at least as early as June 13, 2001, as evidenced by the internal Lucent presentation entitled “MEMS – Waveguide Device Patents” attached to the Declaration as Exhibit 1. Also, the claimed invention was reduced to practice by implementing it in an optical device prior to or in conjunction with the preparation of the presentation. The optical device embodying the claimed invention was used to obtain the initial experimental results referred to at pages 2-4 of the presentation.

Accordingly, Applicants assert that since the effective filing date of Janssen is November 16, 2001, Janssen is not a proper prior art reference.

For at least the above reasons, withdrawal of the §102(e) rejections of claims 1, 7, 12, and 19 is therefore respectfully requested.

Dependent Claims 2-6, 8-11, 13-18, 20 and 21

Dependent claims 2-6, 8-9, 11, 13-18, 20 and 21 were rejected under 35 U.S.C. § 102(e) as being anticipated by Janssen.

Claims 2-3, 5-6, 8-9, 11, 13-16, 18, and 20-21 are dependent on claims 1, 7, 12, and 19, respectively, and are therefore patentably distinguished over Janssen because of their dependency from independent claims 1, 7, 12, and 19 for the reasons set forth above, as well as other elements these claims add in combination to their base claim. The Examiner has already indicated that claims 4, 10, and 17 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

All of the pending claims following entry of the amendments, i.e., claims 1 through 21, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,



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